

nuBox **WS-103**

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nubert®

Thank you very much for choosing Nubert loudspeakers.

You will be able to set up your system without any problems if you read these operating instructions carefully. We will explain the operation, connection and installation so that you can achieve optimum sound quality and fully enjoy your new speakers!

The Nubert team wishes you happy listening!

2x



Unpacking and Scope of Delivery

Unpacking

To avoid possible damage to the enclosure when unpacking your speakers, do not use sharp or pointed objects. Please keep the packaging in a safe place in case you need to transport the speaker at a later date.

Scope of Delivery

- 2 speakers
- 2 cloth grilles
- 2 loudspeaker cables 0.75 mm² (consider these as „backup“-cables in case you want to get started and don't have any speaker cables available)
- 8 adhesive bumpers



Safety Instructions



- Turn off your amplifier before connecting the speaker cables
- Make sure the speaker cables are firmly attached
- Place the speaker in a dry location
- Do not place the speaker in direct sunlight
- Overload protection: the nuLine WS-103 has an internal automatic overload protection fuse, but please be aware that small amplifiers can damage your speakers too. At high sound pressure levels, small amplifiers can start to distort which can damage the tweeters. If the speakers begin to sound harsh or distorted, turn down the amplifier to avoid damage to your speakers.

Low Temperatures and Sound

When speakers are shipped and delivered during the cold months of the year, it is imperative that they adapt to the temperature of the living area. Low temperatures have a considerable influence on the moving parts of a loudspeaker such as diaphragm, voice coil, bead and spider. The ability of these components to follow rapid oscillations or to perform large excursions is thus significantly restricted. This is not dangerous, but "frozen" speakers are far from their acoustic peak.

Hence our tip: When your new speakers arrive on a cold winter's day, just give them a few hours to acclimatise. Your Nubert speakers will thank you with the superior sound quality you have come to expect from us.

Cloth Grille

The cloth grille protects the loudspeaker drivers (for example from curious children who like to press in tweeter domes) and provides a visual contrast for those who do not like the technical appearance of loudspeaker drivers. Mount the grille on the speaker by lining up the pins of the grille with the matching receivers on the loudspeaker and pushing the grille firmly in place. Be careful not to scratch the speaker! With the cloth grill removed, the loudspeaker sounds somewhat brighter and clearer – the choice is yours!

Elastic Bumpers (bumpers)



The bumpers provide firm, no-slip footing for your speakers and do not leave marks or dents.

Do not mount the adhesive elastic bumpers until you are certain you want to keep the speakers! The supplied brand-name bumpers use a **strong adhesive and are difficult to remove**, especially if they have been attached to the loudspeaker for a longer period of time. Should you wish to remove them, do so very carefully.

CAUTION: warming the surface up in order to loosen the adhesive may damage the foil covering the enclosure.

Connections



Please make sure that your amplifier/receiver is switched off before connecting your speakers. For how to connect the speakers to the amplifier/receiver, please refer to the equipment's user manual.

■ Terminal

You will find the terminal for the speaker cable on the rear of the speaker. The terminal has two binding posts, one with a red marking for plus and one with a black marking for minus. Always make sure that plus on the loudspeaker is connected to plus on the amplifier and minus on the loudspeaker to minus on the amplifier. Reversing polarity will not harm your equipment in any way, but the sound will be diffuse and bass-response and imaging will be very poor. Most loudspeaker cables are marked to make it easy to discern between plus and minus.

If you want to connect the speaker cable directly without any connectors, remove 8 – 15mm of insulation from the end of the cable and twist it so that no individual copper-strands stick out (caution: danger of short-circuiting the amplifier). Loosen the binding post and insert the cable from below. Tighten the binding post firmly!

■ Speaker Cables

Thin speaker cables are not a good way to transport the electrical signal between amplifier and speaker.

As such, the supplied speaker cables are to be considered an interim solution, in case you didn't order speaker cables with your speakers and do not have quality cables available.

For the WS-103, we recommend using our *nuCable LS 2,5 Studioline* 2 x 2,5 mm² speaker cable for cable lengths under 10 m. For longer cable runs, we recommend the 2 x 4 mm² *nuCable LS 4 Studioline*.

Voicing Switches

At the terminal of the WS-103 you will find two two-position switches. These switches allow you to adapt the sound of the speaker to the acoustics of your listening space and/or personal preference:

■ Treble-switch / Höhen-Schalter (right switch)

This switch lets you set the amount of treble from the speaker. The **Neutral setting** is the one that most people find to be the best balanced. This setting has the most linear frequency response.

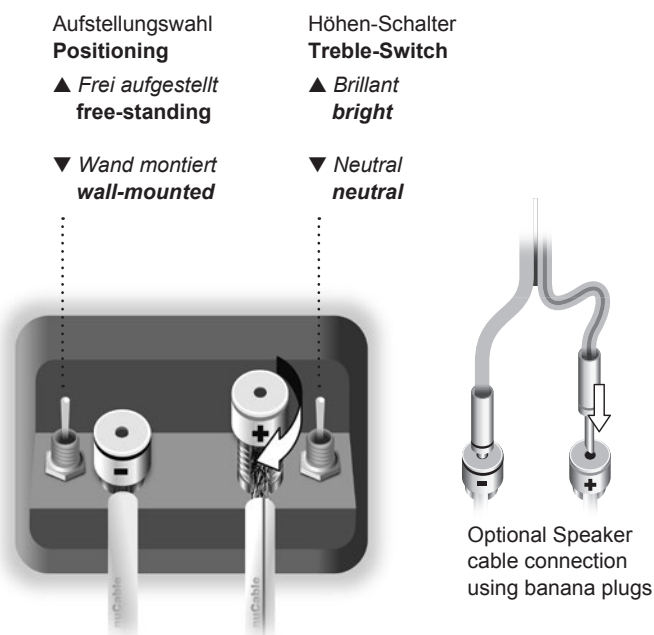
The **Brillant setting** is useful for heavily dampened listening areas or for listening off-axis (the speakers playing by you instead of at you).

High frequencies are directional in nature, so if you are listening to your speakers at angles greater than ca. 30 degrees, you will experience a slight loss of treble energy. Setting the "Höhen"- switch to *Brillant* will compensate for this.

■ Positioning / Aufstellungswahl (left switch)

The setting **"Frei Aufgestellt"** (**Free-standing**) is meant for speaker-placements more than 30 cm from the back wall.

If you wish to wall-mount the speakers or place them in close proximity to the back wall, we recommend the **"Wand montiert"** (**wall-mounted**) setting.



Setup and Placement

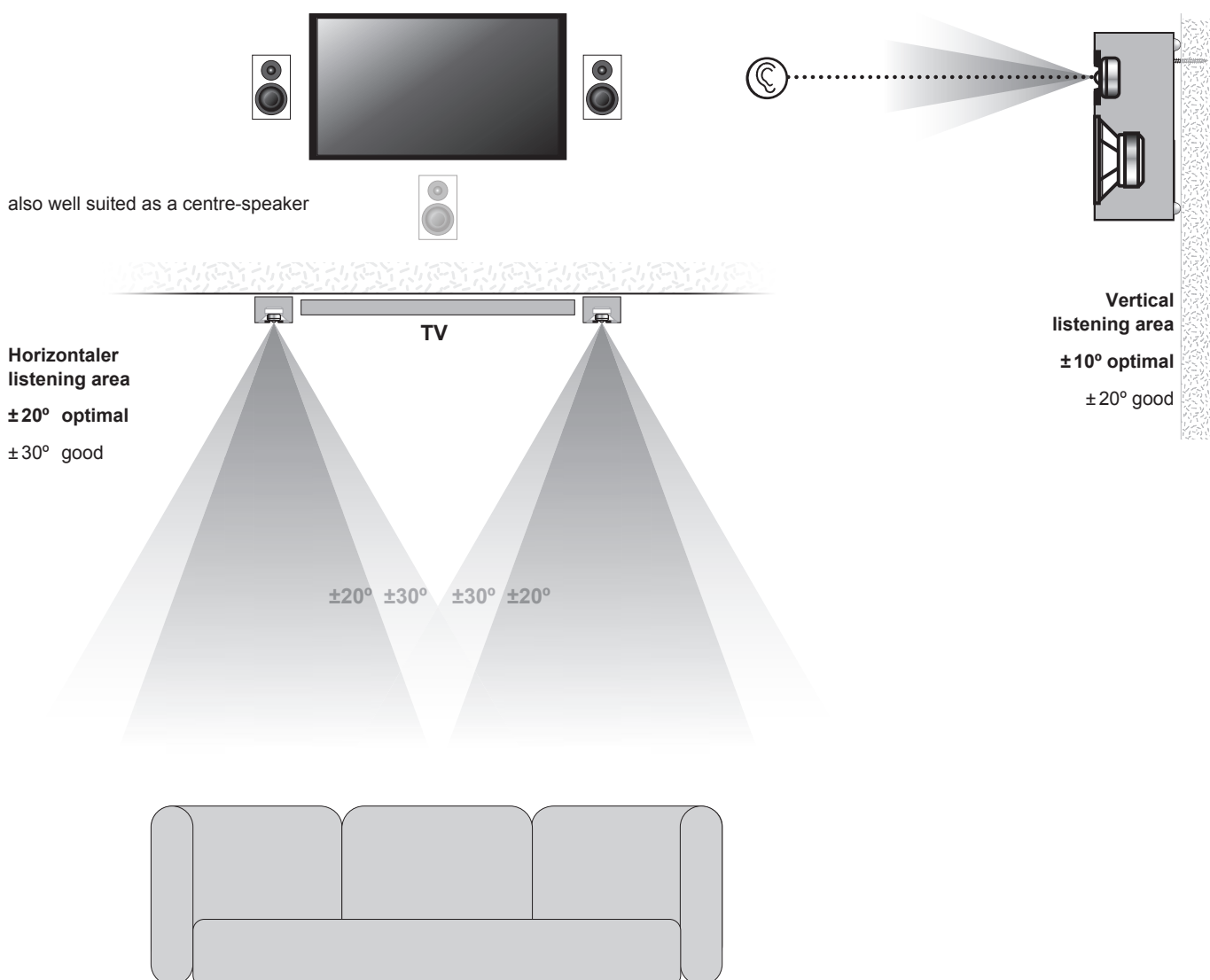
The nuBox WS-103 is a high quality, extremely neutral multifunctional loudspeaker which in conjunction with a good subwoofer, (suitable models at www.nubert.de) will meet even the highest musical requirements. To get the most out of your speakers, please observe the following basic rules:

When placed on- or near a wall, all loudspeakers will change tonally due to the laws of physics. Thanks to the voicing-switches on the back of the WS-103, you can easily adapt the sound of the speaker to fit your specific placement, be it on the wall next to your TV or free-standing.

When placed on a shelf, the best sound is achieved when the front edge of the speaker is either flush with the shelf or protrudes slightly. This allows the loudspeaker to radiate the sound freely into the room and helps to avoid voices sounding like coming through a funnel.

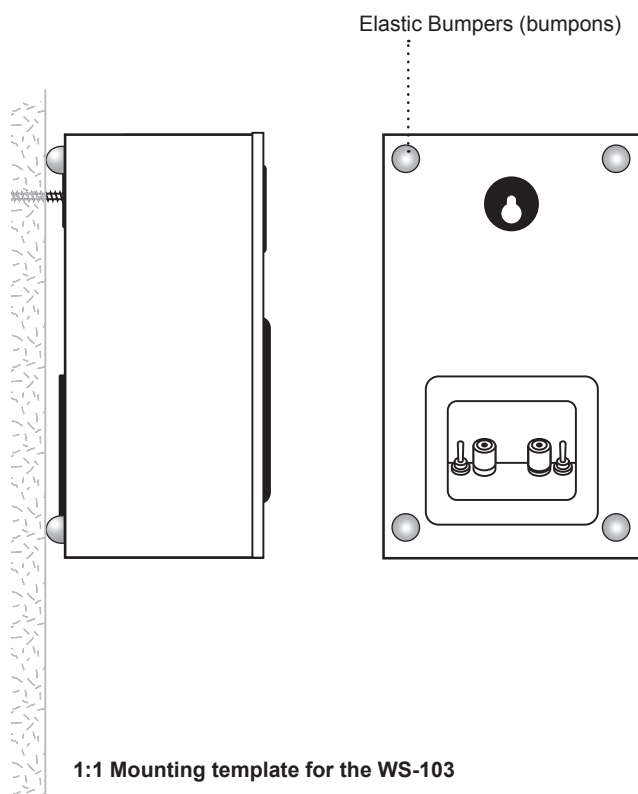
The optimum horizontal listening position with the speaker mounted upright, is within 20° to the left or right of the speaker. The speaker will not lose significantly in brightness unless listened to at extreme angles. If this is the case, you can compensate for the loss of treble energy by setting the Höhenschalter to Brilliant.

The vertical coverage area is exceptionally good for a speaker with this type of driver arrangement. When mounted upright, you will get the most neutral sound when the speaker is mounted approximately at ear-height, but even at 20° above or below the tweeter, the sound will remain balanced.



Wall-mounting

You don't need any additional mounting hardware to wall-mount the WS-103. On the back of the WS-103, you will find a keyhole-hanger – simply screw in one screw in the wall, using the correct screw and dowel for your specific type of wall, and hang the speaker from the keyhole-hanger. To ease cable management, use the supplied bumpers to get an even distance from the wall.



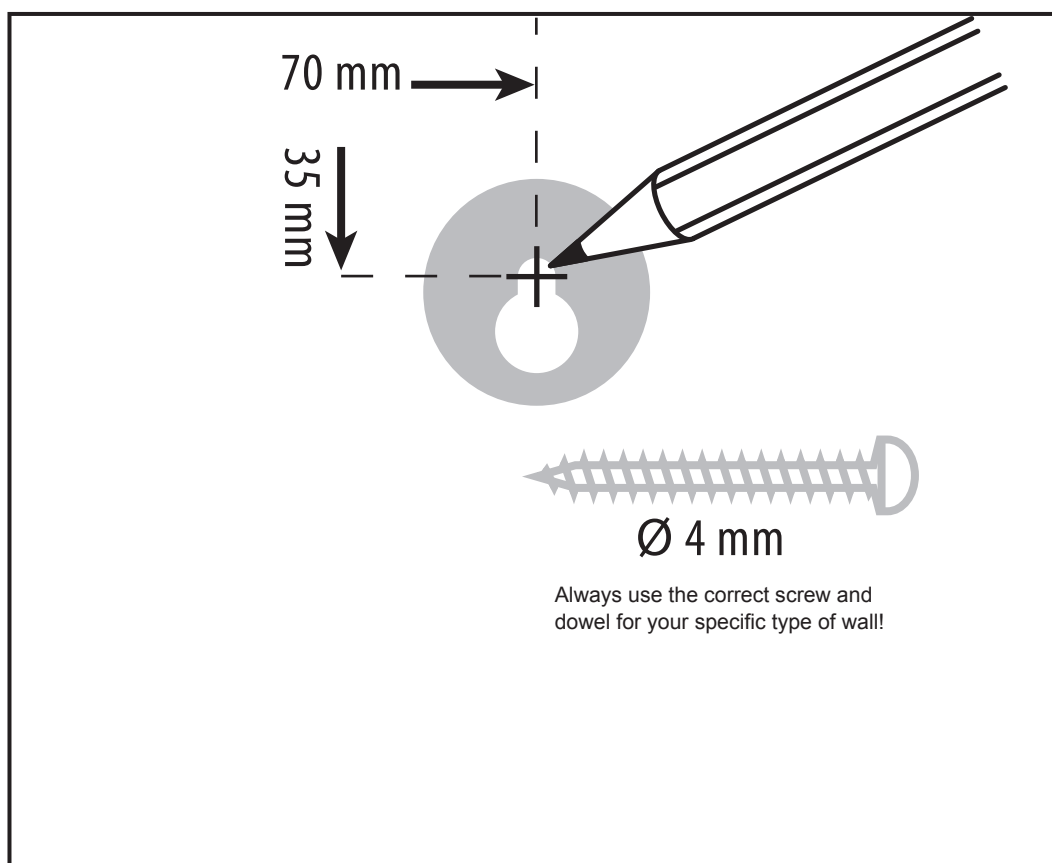
Concept

The nuBox WS-103 is a multifunctional, wall-mounted loudspeaker, well-suited for front- center- and rear-applications in surround sound systems.

If you use the WS-103 as a center-speaker, you can place it both vertically and horizontally (if you use it horizontally, you will reduce dispersion slightly).

The compact enclosure places natural limits on the bass-performance of the WS-103. If you wish to use the WS-103 as your main speakers in a stereo or surround system, we recommend that you add a subwoofer to round off your system. Adding a Nubert subwoofers will fully realize the potential of the WS-103 – you can find suitable subwoofers at www.nubert.de

If you don't want to add a subwoofer or prefer to mount your speakers on stands instead of on the wall, the Nubert nuBox 303 is an excellent alternative. Using the same drivers as the WS-103 but in a larger enclosure, the nuBox 303 offers deeper bass and secure mounting to suitable Nubert speaker stands using M4 bushings on the bottom of the speaker.



Construction and Technology

■ Design-goals

Building upon and staying true to the original concept but still upgrading and improving virtually every single component was the goal for the upgraded and improved nuBox series. The minimalist and timeless design was kept and will adapt to virtually all living-spaces. We also kept the tried-and-true 2-way principle in order to offer the best possible value for money. Since the inception of the previous models, driver-technology had improved markedly, and by incorporating these improvements, we were able to improve on especially the bass-performance and neutrality of the current nuBox series.

■ Drivers

– Tweeter

The tweeter used in the WS-103 is a soft-dome tweeter with a 19mm voice-coil. The use of a small-diameter tweeter ensures excellent dispersion characteristics, creating an extremely wide sweet-spot. The large surround allows unusually long travel of the diaphragm, making the tweeter capable of handling unusually high sound pressure levels. A steel grille protects the driver from mechanical damage.

– Woofer

The newly developed polypropylene woofer of the WS-103 has a 12,3 cm aluminum, flow-optimized, ventilated basket that practically eliminates compression artefacts and optimizes cooling of the voice-coil. Add a long-throw surround and voice-coil, coupled to a powerful double-magnet motor system, and the result is a driver capable of handling high sound pressure level with very low distortion and compression. The winding height of the voice coil means that the driver never loses control, even at high sound pressure levels and that the important midrange stays uncoloured with excellent resolution.

■ Crossover

The crossovers of the nuBox series are using very high quality made-in-Germany components, and are individually designed for each model in the series. Low-loss inductors using a specially formulated core that ensures minimal saturation and low distortion, without the size and weight of air-wound inductors. The WS-103 can be adapted to suit different room acoustics and placement using the treble adjustment- and placement switches.

About Crossover Complexity

In high-end circles you often come across the notion that less is more when it comes to crossovers. Above all, the impulse- and phase response is supposed to benefit from simple (and cheap) 6 dB-per-octave (1. order) crossovers, often using just one component per driver. This sort of crossover design neither takes the interaction between the crossover and the moving parts of the driver into account, nor does it allow the creation of phase-optimized Linkwitz-Riley filters.

We use high-slope, linear phase filters in order to ensure optimum coupling and control of each driver. The result of the increased complexity and manufacturing cost is a very linear frequency response and an unusually open and uncoloured sound.

Care and Cleaning Tips



Caution!

Improper handling of the speaker may result in damage. Before recommissioning, make sure that all connections are correct, that there are no short circuits and that the speaker is completely dry. Never use strong cleaning agents or solvents such as petrol, spirit or similar!

Enclosure

We recommend commercial window cleaner sprayed onto a cotton cloth. This allows almost all fingerprints and dust to be easily removed. Alternatively, you can also use window active foam. We advise against the use of microfibre cloths! These can cause mini scratches in the surface.

Diaphragms and drivers

To remove dust from a loudspeaker chassis, a lint-free cotton cloth is sufficient to wipe the membrane lightly with very little pressure. All Nubert tweeters are equipped with a protective grille that allows cleaning without risk of damage. If the dust cannot be completely removed, use a small brush, e.g. a make-up brush.

nuBox WS-103 Technical Data

| | |
|---|--|
| Principle | Sealed 2-way compact, on-wall, satellite, center- and rear-speaker |
| Power Handling | 80 Watts (DIN EN 60268-5, 300 hours test) 120 Watts peak |
| Protection | Auto-resetting thermal fuses for drivers and crossover |
| Impedance | 4 Ohm |
| Frequency response (+/- 3 dB unless otherwise stated) | |
| Wall-mounted: | 95 – 27.000 Hz, 80 – 30.000 Hz -6 dB |
| Free standing: | 119 – 27.000 Hz 94 – 30.000 Hz -6 dB |
| Sensitivity | 83 dB (1 W / 1 m) |
| Dimensions | 23 x 14 x 10.8/12.3 cm (H x W x D) with/without grille |
| Weight | 2,9 kg |

Service

If you have any questions or problems during the commissioning of your Nubert system, please do not hesitate to contact our service team:

Phone: +49 (0) 7171 8712-0

E-mail: info@nubert.de

Please have your customer number ready!

Loudspeaker Basics

■ Overloading Loudspeakers

An amplifier can only be run at its maximum output power capability for a prolonged period if the rated output of the amplifier is lower than the power handling of the loudspeaker. Speech and music are then reproduced without distortion.

Contrary to popular belief, you can easily damage a 100 Watt loudspeaker with a 30 Watt amplifier: If an amplifier is forced to work outside of its comfort-zone – often the case with small amplifiers – the result will be very unpleasant distortion, so-called clipping. Clipping is most prevalent in the treble-range and can destroy a tweeter in minutes. Turned-up treble or an active loudness function only speed things up.

To avoid this scenario, our speakers are equipped with auto-resetting thermal fuses that protect driver and crossover by temporarily disconnecting them. Once normal the fuses cool down, they will automatically reset, and you can continue using the loudspeaker.

■ Impedance, or the Ω -thing

The WS-103 is a true 4-ohm loudspeaker and is an easy load for any modern stereo amplifier or surround receiver.

Caution: If you connect two 4-Ohm loudspeakers in parallel, the amplifier will see a 2-Ohm load. This is beyond the drive-capability of most amplifiers, especially at high sound pressure level, and can cause the amplifier to shut off due to thermal overload.

Warranty terms

Your provider and contractual partner:

Nubert electronic GmbH, Goethestr. 69, 73525 Schwäbisch Gmünd, Germany
Phone: +49 7171 8712-0 · Fax: +49 7171 8712-345 · E-Mail: info@nubert.de

For questions and individual advice, please dial our special number:
+49 7171 8712-0

Managing Directors: Günther Nubert, Bernd Jung · Register court AG Ulm, HRB 700296
Tax ID No.: DE 16758584 · WEEE Reg. No. DE 48888173

Our hotline is available from:
Monday to Friday from 10:00-18:00 and Saturdays from 9:00-13:00.

Nubert warrants the Nubert product described in this manual to the purchaser under the following terms and conditions.

The purchaser's statutory warranty claims, in particular for subsequent performance and, if applicable, damages in the event of defects, shall remain unrestrictedly with the purchaser and shall be fully available to our customers.

1. The warranty period for the passive (no active electronic components) Nubert loudspeaker described in this manual is 5 years from the date of delivery. In the first two years, this applies without restriction. After the second year, the warranty is limited to the functionality of the drivers, connectors and crossover. In particular, optical changes to surfaces (e.g. in the case of foil-coated, painted, veneered, anodized or plastic surfaces) are no longer covered after the second year. Your proof of purchase is the proof of guarantee.

2. Contents of the warranty claim

The guarantee applies to all parts and labour costs from delivery. It includes and is limited to the free repair or replacement of the defective part in the event of a material defect in the goods (e.g. Material defect or manufacturing defect). In addition, Nubert shall bear the costs of the return shipment of the affected product from or to the curb in the case of justified warranty claims, provided that the goods are within the countries of the European Union and the shipment was previously agreed with Nubert. Additional services are possible as a gesture of goodwill in accordance with Nubert's free discretion. For the duration of the guarantee, it is assumed that the material defect was already present at the time of transfer of risk. Replaced parts become the property of Nubert. Warranty services do not extend the warranty period, nor do they set a new warranty period in motion. The warranty period for installed spare parts ends with the warranty period for the entire device. The promise or the execution of warranty services is made without recognition of a performance obligation according to statutory warranty law.

3. The warranty claim does not apply in the case of

- repair attempts of any kind not previously agreed upon with Nubert
- improper operating environment or improper storage (e.g. damage due to moisture or particularly high or low temperatures)
- improper transport packaging (the original transport packaging, correctly used, provides sufficient protection)
- improper transport, if the transport was not previously agreed upon with Nubert (Nubert organizes the transport for you with Nubert selected Transport company. You will receive return tickets with the corresponding postage paid returns).
- improper mechanical effects on the goods (e.g. on housing, switches, connection sockets or antennas)
- improper operation, improper mounting (e.g. switches, antennas) or improper connection (e.g. operation on defective or unsuitable amplifiers or other source devices with DC voltage or unusually high hum voltage at the source device output).

4. Disassembled components

Do not disassemble any components from our equipment and do not send in any such individual parts until you have contacted Nubert Service and agreed on this measure.

5. What to do in the event of a warranty claim

If possible, pack the defective device in its original carton with a copy of the purchase receipt and a meaningful description of the defect. Please note our shipping instructions. Please contact the Nubert team for a return or refund:

• **Telephone +49 7171 8712-0 • Fax: +49 7171 8712-345 • E-mail: info@nubert.de**

Of course, you can also return your defective product to the Nubert Service in Schwäbisch Gmünd or Aalen:

• Nubert electronic GmbH, Goethestr. 69, D-73525 Schwäbisch Gmünd, Germany • Nubert electronic GmbH, Bahnhofstr. 111, D-73430 Aalen, Germany.

Shipping information: We recommend that you always keep the original carton, along with the protective foam inserts. Tip: Folding saves space! This is the only way to ensure a safe return shipment in the worst-case scenario. If, in exceptional cases, you use a different packaging, it should protect professionally against the typical dangers of shipping and have special protective cushions or equivalent protective devices. We would like to draw your attention to the fact that we accept no liability for damage caused by improper packaging for which you are responsible!

Disposal and battery return

Environmental protection: Ingredients, e.g. chemical pollutants in old appliances, can damage the environment and health if stored improperly, in particular if they are not shatterproof or disposed of properly by persons not authorised to do so. Especially in the case of illegal exports, there is no guarantee that the environment and human health will be protected from damage. Old appliances can also contain recyclable raw materials, old appliances can be repaired or parts can be reused and thus considerably protect the environment. Old appliances must therefore not be disposed of with normal household waste or exported illegally. As an end user, you are legally obliged to return or properly dispose of electrical equipment.

Batteries:

Ingredients, e.g. chemical type of batteries, can damage the environment and health if not stored and disposed of properly. At the same time, recyclable raw materials may also be included. Batteries must therefore not be disposed of with normal household waste. As an end user, you are legally obliged to return used batteries. You can return batteries after use to the seller or in the designated collection points (e.g. in public collection points in your municipality or in the trade) free of charge or send them back free of charge. You can also send the batteries back to the seller free of charge by post, whereby any requirements of the dangerous goods law must be observed. The sale at points of sale is limited to the quantities customary for end users for disposal as well as used batteries which the distributor carries or has carried in its product range.

• Battery return

The symbol with the crossed-out dustbin reminds you not to put batteries in the household waste.

Under this symbol you can also find the following symbols with the following meaning about ingredients:

Pb = battery contains more than 0.004 mass percent lead, Cd = battery contains more than 0.002 mass percent cadmium,

Hg = battery contains more than 0.0005 mass percent mercury.

• Old appliances

Electrical and electronic equipment is also marked with the crossed-out wheellie bin symbol. The symbol indicates that you, as the owner of this appliance, may not dispose of it with your household waste (grey bin, yellow bin, organic waste bin, paper or glass).

You can send the device to the municipal collection points to be collected separately from unsorted municipal waste for reuse. Used batteries and accumulators which are not enclosed by the waste equipment shall be separated from it at a collection point prior to delivery.

Old appliances can also be returned to us directly in our shops or shipped back to us for disposal. Please send an Email to info@nubert.de for a free return shipping label. You can also request this by calling +49 7171 8712-0. Please then send the old device to the following address:

Nubert electronic GmbH, Goethestr. 69, D-73525 Schwäbisch Gmünd, Germany.

Please ensure that the old appliance is properly packaged for shipment so that breakage is avoided as far as possible and mechanical compaction or breakage can be ruled out. The acceptance of waste equipment may be refused if there is a risk to human health and safety due to contamination.

Please note: You are responsible for the deletion of personal data on the waste equipment to be disposed of.



As of: 26.7.2019

Technical changes, errors and misprints excepted. You will find our General Terms and Conditions (AGB) on our website: www.nubert.de/agb.htm



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